

IN THE SPECIFICATION

Please amend the paragraph at page 4, line 26, to page 5, line 13, as follows:

According to one aspect of the present invention, there is provided a power-on detector ~~comprising including a current generation circuit having a first output terminal and a second output terminal and configured to produce a first current and a second current from the first output terminal and the second output terminal, respectively, the first current and the second current having a low degree of temperature dependency and being substantially equal to each other, a first load element connected between the first output terminal of the current generation circuit and a first potential supply source a reference potential generation circuit which generates a reference potential, and, a current mirror circuit having a first current path and a second current path, the first current path being connected to the second output terminal of the current generation circuit, a second load element connected between the second current path of the current mirror circuit and a second potential supply source, and a first comparator which compares a first voltage generated on the basis of the reference potential output from the reference potential generation circuit and a potential of a first potential supply source, and a second voltage generated on the basis of the reference potential and a potential of a second potential supply source different from the potential of the first potential supply source, having a first input terminal connected to the first output terminal of the current generation circuit, and a second input terminal connected to a connection node between the second load element and the current mirror circuit, the first comparator making comparison between (i) a first voltage obtained by causing the first current output from the first output terminal of the current generation circuit to flow to the first potential supply source by way of the first load element and (ii) a second voltage obtained by causing a current flowing from the second potential supply circuit to the second current path of the current mirror circuit by way of the~~

second load element, wherein power-on is detected when a potential difference between the potentials of the first and second potential supply sources upon power on becomes larger than a sum of the first and second voltages the second voltage becomes higher than the first voltage when a power supply is turned on.

Please amend the paragraph at page 5, line 14, to page 6, line 5, as follows:

According to another aspect of the present invention, there is provided a power-on reset circuit comprising including a data holding circuit which holds data, a current generation circuit having a first output terminal and a second output terminal and configured to produce a first current and a second current from the first output terminal and the second output terminal, respectively, the first current and the second current having a low degree of temperature dependency and being substantially equal to each other, a first load element connected between the first output terminal of the current generation circuit and a first potential supply source a reference potential generation circuit which generates a reference potential, a current mirror circuit having a first current path and a second current path, the first current path being connected to the second output terminal of the current generation circuit, a second load element connected between the second current path of the current mirror circuit and a second potential supply source, a first comparator which compares a first voltage generated on the basis of the reference potential output from the reference potential generation circuit and a potential of a first potential supply source, and a second voltage generated on the basis of the reference potential and a potential of a second potential supply source different from the potential of the first potential supply source having a first input terminal connected to the first output terminal of the current generation circuit, and a second input terminal connected to a connection node

between the second load element and the current mirror circuit, the first comparator making comparison between (i) a first voltage obtained by causing the first current output from the first output terminal of the current generation circuit to flow to the first potential supply source by way of the first load element and (ii) a second voltage obtained by causing a current flowing from the second potential supply circuit to the second current path of the current mirror circuit by way of the second load element, and a reset circuit which resets data held by the data holding circuit on the basis of an output signal from the first comparator, wherein the reset circuit resets data held by the data holding circuit when a potential difference between the potentials of the first and second potential supply sources upon power-on becomes larger than a sum of the first and second voltages the second voltage becomes higher than the first voltage when a power supply is turned on."

Please amend the paragraph at page 7, line 12, to page 8, line 2, as follows:

FIG. 2 is a conceptual view for explaining a power-on detector and power-on reset circuit according to the first embodiment of the present invention. A BGR (Band Gap Reference) circuit 20 is a reference potential generation circuit which generates a reference potential with low temperature dependency. The BGR circuit 20 is comprised of first, second, and third circuit units 21, 22, and 23. The circuit unit 21 is a circuit which generates a current ( $dI/dT > 0$ ) having a positive temperature characteristic. The circuit unit 22 is a circuit which generates a current ( $dI/dT < 0$ ) having a negative temperature characteristic. The output currents of the circuit units 21 and 22 are added by the circuit unit 23. As a result, the temperature characteristics of the circuit units 21 and 22 are canceled, and a current first and second output currents ( $dI/dT + dI/dT = 0$ ) substantially free from temperature dependency are [is] generated.

Please amend the paragraph at page 8, lines 3-15, as follows:

The first output current of the circuit unit 23 is supplied to a resistor 24 to generate a voltage (first voltage) V1. The second [[This]] output current is [[also]] supplied to a current mirror circuit 25. The current mirror circuit 25 supplies a current equal to the output current to a resistor 26, generating a voltage (second voltage) V2. The voltage V1 becomes substantially free from the temperature characteristic with respect to the potential of ground V<sub>SS</sub> (potential of the first potential supply source). The voltage V2 becomes substantially free from the temperature characteristic with respect to the potential of a power supply V<sub>DD</sub> (potential of the second potential supply source).

Please amend the paragraph at page 10, line 27, to page 11, line 22, as follows:

FIG. 5 shows an arrangement example of the circuit unit 23 in the circuit shown in FIG. 2. This circuit comprises p-channel MOS transistors ~~51 and 52, and a resistor 53~~ 51-1, 51-2, 52-1 and 52-2. The source of the MOS transistor [[51]] 51-1 is connected to the power supply V<sub>DD</sub>, and its gate receives the output voltage V<sub>OUTA</sub> of the circuit unit 21. The source of the MOS transistor [[52]] 52-1 is connected to the power supply V<sub>DD</sub>, its drain is commonly connected to the drain of the MOS transistor [[51]] 51-1, and its gate receives the output voltage V<sub>OUTB</sub> of the circuit unit 22. The MOS transistors ~~51 and 52~~ 51-1 and 52-1 operate as a first current source circuit which extracts a current free from any temperature characteristic from outputs from the differential amplifiers 31 and 41. The source of the MOS transistor 51-2 is connected to the power supply V<sub>DD</sub>, and its gate receives the output voltage V<sub>OUTA</sub> of the circuit unit 21. The source of the MOS transistor 52-2 is connected to the power supply V<sub>DD</sub>, its drain is commonly connected to the drain of the MOS transistor 51-2, and its gate receives the output voltage V<sub>OUTB</sub> of the circuit unit 22. The MOS

transistors 51-2 and 52-2 operate as a second current source circuit which extracts a current free from any temperature characteristic from outputs from the differential amplifiers 31 and 41.

One terminal of the resistor 24 [[53]] is connected to the common drain connection node between the MOS transistors ~~51 and 52~~ 51-1 and 52-1; and the other terminal, to ground  $V_{SS}$ . A potential  $V_{REFDC}$  (reference potential or first voltage V1) which is generated by adding the output currents of the circuit units 21 and 22 and is free from temperature dependency is output from an output terminal 54 connected to the common drain connection node between the MOS transistors ~~51 and 52~~ 51-1 and 52-1.

Please amend the paragraph at page 11, lines 23-27, as follows:

The temperature dependency can be changed by adjusting the resistance values of the resistors 34 and 45. In this circuit, the resistance values are so adjusted as to reduce the temperature characteristic of the potential  $V_{REFDC}$  (reference potential or first voltage V1).

Please amend the paragraph at page 12, lines 1-7, as follows:

The reference potential  $V_{REFDC}$  can be set by the resistance value of the resistor 24 [[53]]. The reference potential  $V_{REFDC}$  can be set high by increasing the resistance value of the resistor 24 [[53]], and low by decreasing the resistance value. The use of a variable resistor 24 [[53]] allows freely setting the reference potential  $V_{REFDC}$ .